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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/771,707      | 02/04/2004  | Seiji Sugiura        | TOW-064             | 3782             |

959 7590 02/08/2007  
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| EXAMINER |
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MERCADO, JULIAN A

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| ART UNIT | PAPER NUMBER |
|----------|--------------|

1745

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE  | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS                               | 02/08/2007 | PAPER         |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/771,707

Applicant(s)

SUGIURA ET AL.

Examiner

Julian Mercado

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 7-9 is/are rejected.
- 7) ☒ Claim(s) 5 and 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date See Continuation Sheet.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :2005-10-07, 2004-09-14, 2004-02-04 .

## **DETAILED ACTION**

### ***Remarks***

Claims 1-9 are pending.

### ***Information Disclosure Statement***

The Information Disclosure Statements filed on October 10, 2005, September 14, 2004 and February 4, 2004 have been considered by the examiner.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3 in lines 1-2 recite "said edges of said first and said holding portions..." It is unclear what is intended to be claimed by "said first", e.g. said first *what*? It also appears to the examiner that "said holding portions" should be --second holding portions.--

Claim 3 in lines 1-2 recite "said edges of said first and said holding portions..." It is unclear what is intended to be claimed by "said first", e.g. said first *what*? It also appears to the examiner that "said holding portions" should be --second holding portions.--

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Claim 3 recites the limitation "first and second portions" in line 3. There is insufficient antecedent basis for this limitation in the claim. If "first and second portions" is intended to read --first and second *holding* portions--, it is further unclear how the prior recitation of "said first and said holding portions" relates to first and second holding portions.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Barton et al. (U.S. Pat. 5,686,200).

For claim 1, Barton et al. teaches a fuel cell including at least one unit cell, said unit cell comprising an electrolyte/electrode assembly or MEA including a pair of electrodes and an electrolyte interposed therebetween, a pair of separators [442, 452] for sandwiching the MEA assembly, and a plurality of metal clip members [443, 453] for holding outer regions of the first and second separators at a plurality of positions, with each of the metal clip members including a side plate curved at opposite ends, and first and second holding portions extending from the opposite ends of said side plate, as shown in Figure 15B. See col. 11 line 52 to col. 12 line 3. Note that in Figure 15B, a length or left-to-right dimension of the first and second holding portions is greater than a length or top-to-bottom dimension of the side plate. The holding portions are specifically disclosed to tighten together the first and second separators,

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“[c]ompression members 443a, 453a urge first plate 442 toward second plate 452 such that compressive force is applied to the MEA (not shown) interposed between plates 442, 452.” (ib.)

For claim 2, the first and second holding portions have edges curved or bent away from each other, as shown in Figure 15B at [443b, 453b].

For claim 3, and to the extent that this claim is understood by the examiner for the reasons set forth under 35 U.S.C. 112, second paragraph (discussion above), the edges of the first and second holding portions protrude from opposite sides of the first and second portions for a predetermined distance.

For claim 4, an opening is formed centrally in each of the first and second holding portions, e.g. the opening wherein plates [442] and [452] reside.

Claims 1 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Grüne et al. (U.S. Pat. 6,087,033).

For claim 1, Grüne et al. teaches a fuel cell including at least one unit cell, said unit cell comprising an electrolyte/electrode assembly including a pair of electrodes [23, 25] and a porous membrane electrolyte carrier [24] interposed therebetween. See col. 3 line 54 et seq. and col. 1 line 38 et seq. The fuel cell includes a pair of pole flanges [21, 26] for sandwiching the MEA assembly and which are deemed structurally equivalent to the claimed separators. (ib.) A plurality of metal clip members [28] hold the outer regions of these first and second separators at a plurality of positions, with each of the metal clip members including a side plate curved at opposite ends, and first and second holding portions extending from the opposite ends of said side plate, as shown in Figure 2. (ib.) Note that in Figure 2, a length or left-to-right dimension of

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the first and second holding portions is greater than a length or top-to-bottom dimension of the side plate. The holding portions are specifically disclosed to tighten together the first and second separators, "[t]hese [fuel cell] elements are held together by a frame element (28), which secures the entire periphery of a cell." (ib.)

For claim 7, the separators further include an insulating section [29] to which the metal clip is attached. See col. 4 line 50 et seq.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-4, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grüne et al. (U.S. Pat. 6,087,033) in view of Barton et al. (U.S. Pat. 5,686,200).

The teachings of Grüne et al. are discussed above.

For claims 2-4, 8 and 9, Grüne et al. does not explicitly teach the edges of the holding portions being curved or bent away from each other. However, Barton et al. teaches this configuration for a holding portion in Figures 6A, 7A and 18. Thus, Barton et al. teaches that holding portions having curved or bent edges are art-recognized equivalents to holding portions having flat edges, such as shown in Figures 3, 5B, 16 and 17. Thus, the prior art's clear recognition of mutual equivalence of these components, independent of applicant's disclosure, is

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herein relied upon as the rationale to support an obviousness rejection. *In re Ruff*, 256 F.2d 590, 118 USPQ 340 (CCPA 1958)

***Allowable Subject Matter***

Claims 5 and 6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art of record does not teach or suggest the instant invention regarding metal clip members attached to clip attachment sections of a first unit cell that is not in alignment with metal clip members attached to a clip attachment section of a second unit cell.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. JP 2002-231273, JP 7-29580 and JP 7-29592 teach clip members [30], [11, 12] and [42], respectively. U.S. Patent 4,514,475 to Mientek and U.S. Patent 4,431,714 are cited to teach clip members [33, 36] and [27], respectively. U.S. Patent 6,306,533 B1 to Mund et al. teaches holding clips [9] having curved/bent edges.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian Mercado whose telephone number is (571) 272-1289. The examiner can normally be reached on Monday through Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



jarb



PATRICK J. RYAN  
SUPERVISORY PATENT EXAMINER